IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: Thorsten A. Laux, et al. ATTY DOCKET NO.: 30014200-1020

SERIAL NO.: 10/025,497 GROUP ART UNIT: 2151

DATE FILED: December 26, 2001 EXAMINER: Karen C. Tang

INVENTION: METHOD AND APPARATUS FOR PROVIDING A CLIENT BY A SERVER WITH AN INSTRUCTION DATA SET IN A PREDETERMINED FORMAT IN RESPONSE TO A CONTENT DATA REQUEST MESSAGE BY A CLIENT

AMENDMENT "C" AFTER FINAL

Commissioner for Patents
P.O. Box 1450
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S I R:

 This Amendment "C" After Final is filed in response to the final Office Action of April 21, 2006. Please reconsider the application in view of the amendment and remarks presented below.

<u>IN THE CLAIMS</u>

This listing of claims replaces all prior listings.

1. (original) A data processing system in a client and server system, the server providing the client with an instruction data set in a specified instruction format in response to a content data request from the client, the system comprising:

a server computer comprising:

a memory including a server program that provides one or more content data request properties of the content data request made by the client, that prepares the instruction data set having the specified instruction format and including a plurality of instruction element data sets each representing a specified instruction element of the instruction format and generated by at least one instruction element generating application in an instruction format set up sequence, that includes an instruction format configuration file containing a tree data structure including a plurality of instruction format nodes, each of the instruction format nodes indicating a particular combination of instruction elements having the specified instruction format and having associated with it a node selection criterion, that searches said tree data structure with said determined content data request properties and selects an instruction format node whose associated node selection condition matches said determined content data request properties, and that prepares the instruction data set to be sent to the client by executing the instruction element generating application of the selected instruction format node; and

a processor that runs said server program.

2. (original) The system according to claim 1, wherein said server program analyzes said content data request to provide one or more of client unit related properties and content data related properties.

3. (original) The system according to claim 2, wherein said server program provides for each client as said client unit related properties, device properties about the client, provides as said content data related properties, resource properties about data content resources providing the content data; provides as said client unit related properties, properties about the content data requesting unit used at the client; and provides as said client unit related properties, properties about commands issued at the client.

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4. (original) The system according to claim 2, wherein said memory includes a first property storage area for client unit related properties and a second storage area for content data related properties.

5. (original) The system according to claim 4, wherein said server program analyzes a first content data request to obtain said client unit related properties and said content data related properties, wherein at an arrival of any subsequent content data request in a same session said server program only accesses one of said first storage area and said second storage area to provide said at least one of client unit related properties and said content data related properties.

6. (original) The system according to claim 2, wherein said node selection condition comprises at least one node selection requirement including at least one property name parameter and an expected property;

wherein said search is started at a root instruction format node;

wherein a property relating to said property name parameter of said node selection condition of a next instruction format node is requested to be provided for the current data request; and

wherein when said provided property matches with said expected property, said instruction format selection branches to said next instruction format node.

7. (original) The system according to claim 6, wherein said node selection requirement further comprises a property type parameter indicating a type of property provided.

8. (original) The system according to claim 6, wherein said node selection condition further comprises at least one operation condition for logically combining results of at least two requirements.

9. (original) The system according to claim 1, wherein said instruction format formed by instruction elements of a root instruction format node of said tree data structure is a default instruction format.

10. (original) The system according to claim 9, wherein said default instruction format is an instruction format with an instruction template and a plurality of instruction element positions

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into which the instruction element generating applications insert instruction element data sets when they are executed.

11. (original) The system according to claim 1, wherein said instruction format includes an instruction template and a plurality of instruction element positions into which said instruction element generating applications insert instruction element data sets when they are executed.

12. (original) The system unit according to claim 1, wherein said instruction element generating application includes a component name of a component to be executed.

13. (original) The system according to claim 12, wherein said instruction element generating application further includes an argument name with a substitution name of a substitution component located at a different node.

14. (original) The system according to claim 11, wherein said instruction data set is a set of instruction data for displaying a screen with a particular screen layout format on the client, wherein said instruction template is a screen layout template and said instruction element positions are place holders into which said insert screen element data sets are inserted by said instruction element generating application when said instruction element generating application is executed.

15. (original) The system according to claim 11, wherein said instruction data set is a set of instruction data for controlling a device with a specified control command layout format on the client, wherein said instruction template is a command layout template and said instruction element positions are command holders into which said instruction element generating application inserts command data sets when said instruction element generating application is executed.

16. (original) The system according to claim 1, wherein the client and the server are JAVA based applications, and wherein said instruction format configuration file containing said tree data structure is an XML file.

17. (original) The system according to claim 1, wherein said instruction element

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generating application is one of a JAVA servlet and a JAVA server pages program.

18. (original) A method in a data processing system for providing in a client and server system, at least one client by a server with an instruction data set in a specified instruction format in response to a content data request, comprising the steps of:

providing at least one content data request properties of a content data request made by the client;

preparing the instruction data set having the specified instruction format and including a plurality of instruction element data sets each representing a specified instruction element of the specified instruction format;

searching a tree data structure stored in an instruction format configuration file and including a plurality of instruction format nodes, each instruction format node indicating a specified combination of instruction elements including the specified instruction format and having associated with it a node selection criterion, with said determined content data request properties and for selecting an instruction format node whose associated node selection condition matches said determined content data request properties; and

preparing the instruction data set to be sent to the client by executing instruction element generating applications of the selected instruction format node.

19. (original) The method according to claim 18, further comprising the steps of:

analyzing a first content data request to obtain and store properties in a memory and, at an arrival of a subsequent content data request in a same session, accessing said memory for providing said properties.

20. (original) The method according to claim 18, wherein said node selection condition comprises at least one node selection requirement including at least one property name parameter and an expected property; and further comprising the steps of:

starting a search at a root instruction format node;

requesting from a current content data request a property relating to said property name parameter of a node selection condition of a next instruction format node; and

branching to said next instruction format node if said provided property matches with said expected property.

21. (original) A computer readable medium containing instructions that cause a data processing system to perform a method of providing in a client and server system, at least one client by a server with an instruction data set in a specified instruction format in response to a content data request, the method comprising the steps of:

providing at least one content data request properties of a content data request made by the client;

preparing the instruction data set having the specified instruction format and including a plurality of instruction element data sets each representing a specified instruction element of the specified instruction format;

searching a tree data structure stored in an instruction format configuration file and including a plurality of instruction format nodes, each instruction format node indicating a specified combination of instruction elements including the specified instruction format and having associated with it a node selection criterion, with said determined content data request properties and for selecting an instruction format node whose associated node selection condition matches said determined content data request properties; and

preparing the instruction data set to be sent to the client by executing instruction element generating applications of the selected instruction format node.

22. (original) The method according to claim 21, further comprising the step of analyzing said content data request to provide said at least one client unit related properties and content data related properties.

23. (original) The method according to claim 22, further comprising the steps of:

providing for each client as said client unit related properties device properties about the client;

providing as said content data related properties, resource properties about data content resources providing the content data;

providing as said client unit related properties, properties about the content data requesting unit used at the client; and

providing as said client unit related properties, properties about commands issued at the client.

24. (original) The method according to claim 22, wherein a memory is provided which

includes a first property storage area for said client unit related properties and a second storage area for said content data related properties.

25. (original) The method according to claim 24, further comprising the step of analyzing a first content data request to obtain said client unit related properties and said content data related properties, wherein at an arrival of any subsequent content data request in a same session, one of said first storage area and said second storage area is accessed to provide said at least one of client unit related properties and said content data related properties.

26. (original) The method according to claim 22, wherein said node selection condition comprises at least one node selection requirement including at least one property name parameter and an expected property;

wherein said search is started at a root instruction format node;

wherein a property relating to said property name parameter of said node selection condition of a next instruction format node is requested to be provided for the current data request; and

wherein when said provided property matches with said expected property, said instruction format selection branches to said next instruction format node.

27. (original) The method according to claim 26, wherein said node selection requirement further comprises a property type parameter indicating a type of property provided.

28. (original) The method according to claim 26, wherein said node selection condition further comprises at least one operation condition for logically combining results of at least two requirements.

29. (original) The method according to claim 21, wherein said instruction format formed by instruction elements of a root instruction format node of said tree data structure is a default instruction format.

30. (original) The method according to claim 29, wherein said default instruction format is an instruction format with an instruction template and a plurality of instruction element positions into which the instruction element generating applications insert instruction element

data sets when they are executed.

31. (original) The method according to claim 21, wherein said instruction format includes an instruction template and a plurality of instruction element positions into which said instruction element generating applications insert instruction element data sets when they are executed.

32. (original) The method according to claim 21, wherein said instruction element generating application includes a component name of a component to be executed.

33. (original) The method according to claim 32, wherein said instruction element generating applications further include an argument name with a substitution name of a substitution component located at a different node.

34. (original) The method according to claim 31, wherein said instruction data set is a set of instruction data for displaying a screen with a particular screen layout format on the client, wherein said instruction template is a screen layout template and said instruction element positions are place holders into which said insert screen element data sets are inserted by said instruction element generating applications when said instruction element generating applications are executed.

35. (original) The method according to claim 31, wherein said instruction data set is a set of instruction data for controlling a device with a specified control command layout format on the client, wherein said instruction template is a command layout template and said instruction element positions are command holders into which said instruction element generating applications insert command data sets when said instruction element generating applications are executed.

36. (original) The method according to claim 31, wherein the client and the server are JAVA based applications, and wherein said instruction format configuration file containing said tree data structure is an XML file.

37. (original) The method according to claim 17, wherein said instruction element

generating applications is one of a JAVA servlet and a JAVA server pages program.

38. (original) A computer-readable memory device encoded with a tree data structure having entries which are accessed by a program that provides at least one client by a server in a client and server system, with an instruction data set in a specified instruction format in response to a content data request, wherein the program is encoded in the memory device and is run by a processor, the entries comprising:

a plurality of instruction format nodes, each instruction format node indicating a specified combination of instruction elements including a particular instruction format and having associated with it a node selection criterion.

39. (original) The device according to claim 38, wherein the tree data structure is generated separately for each session between the client and the server.

40. (original) The device according to claim 38, wherein said tree data structure is generated once and independently for each session between the client and the server.

41. (original) The device according to claim 38, wherein said tree data structure is generated dependent on at least one of client-related properties and content data properties.

42. (original) A method in a data processing system for providing one or more clients by a server in a client and server system, with an instruction data set in a specified instruction format in response to a content data request, comprising the steps of:

preparing a tree data structure consisting of a plurality of instruction format nodes, each instruction format node indicating a particular combination of instruction elements including a specified instruction format and having associated with it a node selection criterion; and

searching said tree data structure with content data request properties relating to the content data request sent by the client and for selecting an instruction format node whose associated node selection condition matches said content data request properties.

43. (original) A method in a data processing system for providing one or more clients by a server in a client and server system, with an instruction data set in a specified instruction format, comprising the steps of:

selecting from a number of instruction format templates a specified instruction format template dependent on at least one of client properties and resource properties, wherein said template describes at what places in the instruction data set specified instruction elements can be placed; and

inserting content data in the places indicated in said instruction format template by at least one instruction element generating application;

wherein the selection step also including selecting said at least one instruction element generating application in accordance with one of client capabilities and resource capabilities, from more than one available instruction element generating application.

44. (original) A data processing system in a client and server system, the server providing the client with an instruction data set in a specified instruction format in response to a content data request from the client, the system comprising:

a server computer comprising:

a memory including a server program that provides one or more content data request properties of the content data request made by the client, that prepares the instruction data set having the specified instruction format and including a plurality of instruction element data sets each representing a specified instruction element of the instruction format and generated by at least one instruction element generating application in an instruction format set up sequence, that includes an instruction format configuration file containing a tree data structure including a plurality of instruction format nodes, each of the instruction format nodes indicating a particular combination of instruction elements having the specified instruction format and having associated with it a node selection criterion, that searches said tree data structure with said determined content data request properties and selects an instruction format node whose associated node selection condition matches said determined content data request properties, and that prepares the instruction data set to be sent to the client by executing the instruction element generating application of the selected instruction format node; and

a processor that runs said server program;

a client computer comprising:

a memory including a client program that provides a content data request to the server, and that receives the instruction data set sent by the server; and

a processor that runs said client program; and

a network between said server computer and said client computer.

45. (original) An apparatus which provides, in a client and server system, at least one client by a server with an instruction data set in a specified instruction format in response to a content data request, comprising:

means for providing at least one content data request properties of a content data request made by the client;

means for preparing the instruction data set having the specified instruction format and including a plurality of instruction element data sets each representing a specified instruction element of the specified instruction format;

means for searching a tree data structure stored in an instruction format configuration file and including a plurality of instruction format nodes, each instruction format node indicating a specified combination of instruction elements including the specified instruction format and having associated with it a node selection criterion, with said determined content data request properties and for selecting an instruction format node whose associated node selection condition matches said determined content data request properties; and

means for preparing the instruction data set to be sent to the client by executing instruction element generating applications of the selected instruction format node.

Claims 1-45 are pending in the application. In the final Office Action of April 21, 2006, the Examiner repeated the rejection of claims 1-45 under 35 U.S.C. §103(a) as allegedly being unpatentable over *Brandow, et al. (U.S. Patent No. 6,938,041)("Brandow")* in view of *Gu, et al. (U.S. Patent No. 6,892,230)("Gu.")* Applicants respectfully traverse the rejection and address the Examiner's disposition below.

Regarding claims 1-37, 44, and 45:

Independent claims 1, 18, 21, 44, and 45 each claim subject matter relating to searching a tree that is stored in an instruction format configuration file. The tree data structure includes a plurality of instruction format nodes. Each instruction format node indicates a specified combination of instruction elements including a specified instruction format and having associated with it a node selection criterion.

This is clearly unlike *Brandow* in view of *Gu*, which fails to disclose or suggest Applicants' claimed tree data structure. *Brandow* teaches two types of tree data structures. One tree data structure is used to query a database. *Brandow* discloses a method for querying a database using SQL statements that have been received from a client. *Brandow* 7:31-33. The SQL statements are parsed and converted into a query tree, "which represents the components of the query in a format selected for the convenience of the system." *Brandow* 7:36-39. The query tree is then normalized, compiled, and converted "into a set of instructions suitable for satisfying the query." *Brandow* 7:31-64.

Thus, *Brandow's* first type of tree data structure is clearly unlike Applicants' claimed tree data structure. *Brandow's* query tree is not stored in an instruction format configuration file. Further, *Brandow's* query tree does not include instruction format nodes that indicate a specified combination of instruction elements including a specified instruction format and having associated with it a node selection criterion. Instead, *Brandow's* query tree nodes merely include components of a query. *Brandow* 7:36-39.

As noted by the Examiner, *Brandow's* second type of tree data structure is a clustered index for a database. *Brandow* defines a clustered index as "an index which stores the data pages of the records themselves on the terminal or leaf-level nodes of the index." *Brandow* 7:14-30. *Brandow* further describes that

> [f]or enhancing the speed in which the Database Server stores,
> retrieves, and presents particular data records, the Server maintains
> one or more database indexes on the table, under control of an Index

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> Manager. A database index, typically maintained as a B-Tree data
> structure, allows the records of a table to be organized in many
> different ways.

Id. Thus, the nodes of *Brandow's* tree data structure merely include the data pages of records of a database. Contrary to the Examiner's argument, nowhere does *Brandow* teach that the nodes of its tree data structure include <u>instruction format nodes that indicate a specified combination of instruction elements including a specified instruction format</u> and having associated with it a node selection criterion. In fact, *Brandow's* tree data structure's nodes fail to even store information that is related instruction format nodes, let alone the type of instruction format nodes claimed by Applicants. Instead, *Brandow's* nodes merely store data pages of records. *Id.*

In a vague manner, the Examiner cites to many columns of *Brandow* (specifically columns 7, 8, 12, 14-18, and 20) to support the Examiner's argument. However, none of these passages from *Brandow* even relate to a tree data structure that includes instruction format nodes that indicate a specified combination of instruction elements including a specified instruction format and having associated with it a node selection criterion.

Gu also fails to disclose or suggest a tree data structure that is stored in an instruction format configuration file. Further, *Gu* fails to teach a tree data structure that includes instruction format nodes that indicate a specified combination of instruction elements including a specified instruction format and having associated with it a node selection criterion.

Accordingly *Brandow* in view of *Gu* fails to disclose or suggest claims 1, 18, 21, 44, and 45.

Claims 2-17, 19-20, and 22-37 depend directly or indirectly from claims 1, 18, or 21 and are therefore allowable for at least the same reasons that claims 1, 18, and 21 are allowable.

<u>Regarding claims 38-41:</u>

Independent claim 38 claims subject matter relating to a tree data structure having entries that each comprise a plurality of instruction format nodes. Each instruction format node indicates a specified combination of instruction elements including a particular instruction format and having associated with it a node selection criterion.

This is clearly unlike *Brandow* in view of *Gu*, which fails to disclose or suggest Applicants' claimed tree data structure. As discussed above, *Brandow's* tree data structure does not include instruction format nodes that indicate a specified combination of instruction elements including a particular instruction format and having associated with it a node selection criterion. Instead, *Brandow's* tree data structure merely includes data pages of the records of a database.

Gu also fails to disclose or suggest a tree data structure that includes instruction format nodes that indicate a specified combination of instruction elements including a specified instruction format and having associated with it a node selection criterion.

Accordingly *Brandow* in view of *Gu* fails to disclose or suggest claim 38.

Claims 39-41 depend directly or indirectly from claim 38 and are therefore allowable for at least the same reasons that claim 38 is allowable.

Regarding claim 42:

Claim 42 claims a method comprising preparing a tree data structure consisting of a plurality of instruction format nodes, each instruction format node indicating a particular combination of instruction elements including a specified instruction format and having associated with it a node selection criterion.

This is clearly unlike *Brandow* in view of *Gu*, which fails to disclose or suggest Applicants' claimed tree data structure. As discussed above, *Brandow's* tree data structure does not include instruction format nodes that indicate a specified combination of instruction elements including a particular instruction format and having associated with it a node selection criterion. Instead, *Brandow's* tree data structure merely includes data pages of the records of a database.

Gu also fails to disclose or suggest a tree data structure that includes instruction format nodes that indicate a specified combination of instruction elements including a specified instruction format and having associated with it a node selection criterion.

Accordingly, *Brandow* in view of *Gu* fails to disclose or suggest claim 42.

Regarding claim 43:

Claim 43 claims a method comprising selecting a specified instruction format template dependent on at least one of client properties and resource properties. The template describes at what places in an instruction data set specified instruction elements can be placed.

This is clearly unlike *Brandow* in view of *Gu*, which fails to disclose or suggest Applicants' claimed invention. *Brandow* discloses that its templates can be used to create objects. However, nowhere does *Brandow* disclose or suggest a template that describes at what places in an instruction data set specified instruction elements can be placed.

Gu also teaches using templates, however, *Gu* also fails to disclose or suggest a template that describes at what places in an instruction data set specified instruction elements can be placed.

Therefore, *Brandow* in view of *Gu* fails to disclose or suggest claim 43.

Applicants respectfully submit the rejection has been overcome and request that it be withdrawn.

CONCLUSION

In view of the foregoing, it is submitted that claims 1-45 are patentable. It is therefore submitted that the application is in condition for allowance. Notice to that effect is respectfully requested.

Respectfully submitted,

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